UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/524,735	02/16/2005	Michel Steiger	RE/3-32620A	1584

74550 7590 08/19/2008

Novartis Consumer Health, Inc.
200 Kimball Drive
Parsippany, NJ 07054-0622

EXAMINER	
KAROL, JODY LYNN	

ART UNIT	PAPER NUMBER
1617	

MAIL DATE	DELIVERY MODE
08/19/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/524,735	STEIGER, MICHEL	
	Examiner	Art Unit	
	Jody L. Karol	1617	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *5/2/2008*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *15-23 and 25-33* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *15-23 and 25-33* is/are rejected.

7)☒ Claim(s) *32-33* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Applicant's Amendments and Remarks submitted on 5/2/2008 have been entered. Claim 24 has been cancelled and new claims 31-34 have been added. Accordingly, claims 15-23 and 25-34 are pending and examined on the merits herein.

Status of Objections/Rejections

1. In view of Applicant's amendment to the abstract, the objection to the specification is herein withdrawn.

2. In view of Applicant's amendment to claim 16, the rejection under 35 U.S.C. 112 as being indefinite is herein withdrawn.

3. The rejection of claim 24 under 25 U.S.C. 103(a) as being unpatentable over Asche et al. (US 4,917,886) in view of Sekine et al. (US 6,054,484) as evidenced by Krzysik (US 5,399,342) is moot in view of Applicant's cancellation of this claim.

4. Applicant's arguments regarding the rejection of claims 15-23 and 25-30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Asche et al. (US 4,917,886) have been fully considered, but were not found persuasive. Thus, the rejection is maintained.

5. The following rejections and/or objections are either reiterated or newly applied. They constitute the complete set of rejections and/or objections presently being applied in the instant application. They newly applied rejections are necessitated by the addition of new claims 31-34, and Applicant's admission on the record with regard to the minimal effective concentration of diclofenac sodium (See Applicant's response, page 8).

Claim Objections

6. Claims 32-34 are objected to because of the following informalities: the claims are missing a period. Appropriate correction is required.

Claim Rejections - 35 USC § 112

7. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 32-34 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

The limitation "0.010% (w/w) diclofenac sodium salt" in line 2 of claims 32-34 is not supported by the instant specification. The lowest concentration supported by the

instant specification for diclofenac sodium salt is 0.02 % (w/w) (see page 2). Claims 32-34 appear to be replicated from Examples 1-3 on pages 7-8 of the instant specification. However, the Examples contain 0.10% (w/w) instead of 0.010% (w/w). Thus, this limitation is not supported.

8. Claims 15-23 and 25-30 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for concentrations of diclofenac sodium salt equal to or greater than 0.10% (w/w), does not reasonably provide enablement for concentrations of diclofenac sodium salt less than 0.10% (w/w).

Claims 32-34 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

The test of enablement is whether one skilled in the art could make and use the claimed invention from the disclosures in the application coupled with information known in the art without **undue experimentation** *(United States v. Telectronics, Inc.,* 8 USPQ2d 1217 (Fed. Cir. 1988). Whether undue experimentation is required is not based upon a single factor, but rather is a conclusion reached by weighing many factors. These factors were outlined in *Ex parte Forman,* 230 USPQ 546 (Bd. Pat. App. & Inter. 1986) and again in *In re Wands,* 8 USPQ2d 1400 (Fed. Cir. 1988) and include the following: (1) breadth of the claims; (2) nature of the invention; (3) state of the prior

art; (4) amount of direction provided by the inventor; (5) the level of predictability in the art; (6) the existence of working examples; (7) quantity of experimentation needed to make or use the invention based on the content of the disclosure; and (8) relative skill in the art. All of the factors have been considered with regard to the claims, with the most relevant factors discussed below:

The instant claims 15-23, and 25-30 are directed to topical compositions containing either from 0.02 to 0.4% (w/w) diclofenac sodium salt, or 0.05 to 0.3% (w/w) diclofenac sodium salt. The instant claims 32-34 are directed solely to topical compositions that contain 0.010% (w/w/) diclofenac sodium salt.

However, Applicant's state on the record that the minimum effective concentration for a topical diclofenac sodium emulsion gel formulation for relieving the symptoms of UV-induced skin reaction is 0.1% (see Applicant's remarks, page 8, 1st paragraph). The Applicant refers to Kienzler et al. (*Skin Pharmacol. Physiol.*, 2005; 18: pgs. 144-152), Magnette et al. (*Eur. J. Dermatol.*, 2004; 14: pgs. 238-246). Kienzler et al. teach that the minimal efficacious concentration for alleviating the pain and associated symptoms caused by sunburn for diclofenac-Na gel is 0.1% (see abstract). Kienzler et al. further teach that at concentrations below 0.10%, the stability of diclofenac gel preparations is compromised, and 0.10 % was compared to 0.25% diclofenac get to establish that 0.10% was the minimal efficacious concentration for sunburn pain (see page 145, column 2). Magnette et al. teach the comparison of the 0.1% diclofenac-Na gel compared to the vehicle Emulgel^{TM} and conclude that the 0.1% diclofenac-Na gel is consistently superior to the vehicle (see page 243, Discussion).

This is further supported by Asche et al. (US 4,917,886). Asche et al. teach a lower limit for the formulations containing an active ingredient such as diclofenac is 0.1%.

Furthermore, the instant specification also does not provide any examples of topical compositions of diclofenac-Na below 0.10% (w/w). The lowest concentration exemplified by the instant specification is 0.10% (w/w) (see pages 7-8, Examples 1-3).

Thus, an impermissible burden of undue experimentation is necessary to resolve an effective composition comprising less that 0.10% (w/w) diclofenac sodium salt. An exhaustive study would have to be conducted to formulate a stable and effective composition containing less that 0.10%, and then if found unstable or ineffective, the study would have to be repeated, possibly several more times with each study under slightly different conditions. *Genetech,* 108 F.3d at 1366, states that "a patent is not a hunting license. It is not a reward for a search, but compensation for a successful conclusion" and "[p]atent protection is granted in return for an enabling disclosure of an invention, not vague intimations of general ideas that may or may not be workable."

For the above reasons and analysis of the undue experimentation factors, a person skilled in the art would have to engage in undue experimentation to make the compositions of the instant claims containing less that 0.10% (w/w) diclofenac sodium salt with no assurance of success.

9. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 32-34 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 32-34 are directed towards composition claims consisting of components (a)-(h), or (a)-(i). The recitation of "consisting of" excludes any element or ingredient not specified in the claim. However, the weight % of components listed in these claims each add up to 99.1% (w/w) instead of 100% (w/w). There must be additional components, or additional amounts of components present not accounted for in the claims. Thus, claims 32-33 are indefinite.

Claim Rejections - 35 USC § 103

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 15-23 and 25-31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Asche et al. (US 4,917,886).

The instant claims are directed to a pharmaceutical composition for topical use, wherein the composition is an opaque emulsion-gel, is completely devoid of an anti-fungal drug, and comprises diclofenac sodium salt, water, at least one C_2-C_4 alkanol, a glycol solvent selected from the group consisting of propylene glycol and polyethylene glycol (200-20,000), at least one gelling agent selected from the group consisting of

carbomers, at least one lipid, at least one nonionic surfactant, and a basic agent selected from the group consisting of ammonia, sodium hydroxide, potassium hydroxide to adjust the pH of the total composition to 6.5-8. It is noted that component (c) may or not be present because the range encompasses zero.

Claims 15-16 20-23, 25, and 27-30 are interpreted as broad and open-end by virtue of the term "comprising." Claims 17-1and 31 are limited by the phrase "consists essentially of," which limits the scope of the claims to the specified materials or steps "and those that do not affect the basic and novel characteristic(s)" of the claimed invention. *In re Herz*, 537 F.2d 549, 551-52, 190 USPQ 461, 463 (CCPA 1976). However, absent a clear indication in the specification or claims of what the basic and novel characteristics actually are, "consisting essentially of" will be construed as equivalent to "comprising." *PPG*, 156 F.3d at 1355, 48 USPQ2d at 1355. Claim 19 and 32-34 are interpreted as closed-ended by virtue of the phrase "consists of."

Asche et al. teaches topical compositions containing the following components in the following approximate ranges (see abstract):

i. 0.1-10% by weight of an anti-inflammatory active compound having at least one acidic group, such as diclofenac sodium as claimed in the instant claims 15-31 (see column 7, lines 45-54);

ii. 10-50% by weight of a C_2-C_4 alkanol as claimed in the instant claims 15, 17, 20-23, and 26-31, such as ethanol or especially isopropanol, or mixtures thereof, as claimed in the instant claims 16, 18 and 25 (see column 3, lines 58-62);

iii. 3-50% by weight of a lipid or mixture of lipids as claimed in the instant claims 15-26 and 29-31, such as paraffins, isopropyl myristate, or fatty acid esters such as caprylic/capric acid esters of fatty alcohols having 12 to 18 carbons, among several others as claimed in the instant claims 27-28 (see columns 4-5, and specifically column 4, line 22, and column 5, lines 17-31);

iv. 0.5-2% by weight of a gel structure former (gelling agent), such as polyacrylate (carbomer) as claimed in the instant claims 15-25 and 27-31 (see column 7, lines 5-14), and specifically acrylic acid polymerisate, Carbopol® 934 P, which is analogous to carbomer 934 as claimed in the instant claim 26 (see column 2, line 57 to column 3, line 7);

v. 1-20% by weight of a co-solvent, such as polyethylene glycol (200-6,000) or propylene glycol (200-6,000 units) as claimed in the instant claims 15-31 (see column 3, line 66 to column 4, line 7);

vi. 40-80% by weight of water as claimed in the instant claims 15-31;

vii. 0.5-5% by weight of an emulsifier provided the lipid phase is not self-emulsifying, such as a non-ionogenic (nonionic) surfactant as claimed in the instant claims 15-28 and 30-31 (see column 5, lines 54-56), and specifically polyethylene ethers of fatty alcohols having 2 to 23 ethylene oxide units as claimed in the instant claim 29 (see column 6, lines 23-27); and

viii. optionally non-essential constituents, for example bases such as sodium salts, potassium salts, and ammonia as claimed in the instant claims 15-31 (see column 9, lines1-5, and column 7, lines 51-57).

wherein the composition has a pH of approximately 5 to approximately 7.5, and combines the properties of a gel and an oil/water emulsion (see column 1, lines 30-61). Asche et al. further teaches that a base may be essential for neutralizing the acidic groups of the active ingredients and the gel structure formers (i.e. carbomers), and adjusting the pH of the composition (see column 9, lines 1-9). Additional components such as chemical stabilizers may or may not be present as claimed in the instant claim 30 (see column 8, lines 35-39). Anti-fungal agents are not listed as a possible optional constituent.

Asche et al. does not teach a specific example where the components are within the claimed ranges. However, it would have been obvious to one of ordinary skill at the time of the invention to utilize the teachings of Asche et al. to formulate the claimed compositions. In this case, where the claimed ranges "overlap or lie inside ranges disclosed by the prior art" a prima facie case of obviousness exists. *In re Wertheim*, 541 F.2d 257, 191 USPQ 90 (CCPA 1976).

Response to Arguments

11. The Applicant argues that the instant formulations differ from those taught by Asche et al. in that they do not use a diethanolamine or other organic amine neutralizing agent, and that it was not obvious from the teaching of Asche et al. to prepare a

formulation in the absence of organic amines. The Examiner respectfully disagrees. Asche et al. teach that the bases for neutralizing acid groups are those that result in the salt of active ingredients (i.e. diclofenac) (see column 9, lines 5). While organic amines are preferred, Asche et al. teach that salts of active ingredients are formed from bases, and are metal salts such as sodium salts or salts formed with ammonia (see column 7, lines 49-57). Thus, Asche et al. clearly teach alternatives to organic amines as bases for neutralizing acidic groups.

Applicant's further argue that Asche et al. is concerned exclusively with higher dose of diclofenac (i.e. 1% by weight or higher), whereas the instant formulations are directed to "low dose" formulations that must meet a more rigorous standard of stability. While there is not exemplification in the teachings of Asche et al. for a dose of diclofenac lower than 1% by weight, Asche et al. clearly envisages lower concentrations. As previously stated, Asche et al. teaches a concentration range for the active ingredient (i.e. diclofenac) is form approximately 0.1 to 10% by weight.

Thus, the formulation of a stable (less crystallization), low-dose (i.e. 0.1 to 1% by weight) diclofenac sodium composition in the absence of organic amines is expected.

Conclusion

No claims are allowed.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jody L. Karol whose telephone number is (571)270-3283. The examiner can normally be reached on 8:30 am - 5:00 pm Mon-Fri EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sreeni Padmanabhan can be reached on (571) 272-0629. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

JLK

/San-ming Hui/
Primary Examiner, Art Unit 1617